Human Development Indicators

2.1 Introduction

Human development in South 24 Parganas presents a mixed picture. As can be expected, there are substantial variations in human development across regions. Even within a single region, the levels of human development in different blocks are very different. In this report, an attempt has been made to quantify the levels of human development in the blocks of the district. It should be noted that due to unavailability of compatible data– particularly in constructing the indices for standard of living, human development indicators for the seven municipalities of the district could not be constructed.

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2.2 Human Development Index for South 24 Parganas

As reflected in the State Human Development Report (2004), South 24 Parganas is a middle ranked district. Out of the 17 districts in the state, it is ranked

Table 2.1: Human Development Indices for West Bengal by District

District	Health Index	Income Index	Education Index	HDI	HDI Rank
Kolkata	0.82	0.73	0.80	0.78	1
Howrah	0.77	0.53	0.75	0.68	2
North 24 Parganas	0.72	0.49	0.76	0.66	3
Darjeeling	0.73	0.49	0.72	0.65	4
Burdwan	0.74	0.47	0.71	0.64	5
Hooghly	0.77	0.46	0.67	0.63	6
Midnapore	0.68	0.45	0.74	0.62	7
South 24 Parganas	0.71	0.40	0.68	0.60	8
Nadia	0.65	0.41	0.66	0.57	9
Jalpaiguri	0.61	0.38	0.60	0.53	10
Bankura	0.67	0.26	0.62	0.52	11
Coochbehar	0.50	0.41	0.65	0.52	11
Dinajpur	0.62	0.39	0.53	0.51	13
Birbhum	0.53	0.27	0.61	0.47	14
Murshidabad	0.57	0.29	0.52	0.46	15
Purulia	0.61	0.18	0.55	0.45	16
Malda	0.49	0.36	0.48	0.44	17
West Bengal	**0.70**	**0.43**	**0.69**	**0.61**	

Source: State Human Development Report, 2004

eighth in terms of the Human Deveopment Index. Even for the component indices, it is ranked seventh in terms of Health and Education indices and tenth in terms of the Income index.

The HDI value for South 24 Parganas is 0.60 which is marginally below the state HDI value of 0.61. In an ideal scenario, the HDIs calculated for blocks should be compared to these values to understand the position of the blocks of South 24 Parganas vis-à-vis the district and the state. However, we are handicapped by data unavailability. Hence, the methodology we are compelled to follow in calculating the HDIs for the blocks is different from the one used in the State HDR. Therefore, the numbers we report later in this chapter are not comparable with the numbers in Table 2.1.

2.3 Methodology and Data Source

In calculating the Human Development Index (HDI), we have attempted to follow the methodology suggested by UNDP as far as possible. But unavailability of block level data for many important parameters proved a hindrance here. The HDI attempts to capture in summary form the three basic dimensions of standard of living, education and health. Each of these indicators is defined as a dimension with value between 0 and 1 with reference to minimum and maximum value. The general formula for calculating each dimension index is:

$$\text{Index} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$$

The HDI is then calculated as a simple average of the three different dimension values.

As a proxy for the standard of living of an average person in a region, UNDP has proposed the average per capita income of the region. A major problem of accepting the same for a measure of standard of living in the DHDR arises from the fact that no block level measure of per capita income is available from any official source. The lowest level for which NSSO collects and publishes data on per capita consumption expenditure is the district; this is clearly unsuitable for use in the DHDR which focuses on block level variations. No official block or municipality level statistic for a variable that may be taken to be a sufficiently close approximation to the per capita income is available.

In calculating the block level index for standard of living we have used the household level data for each block from the Rural Household Survey (RHS) for the district of South 24 Parganas undertaken by the Government of West Bengal in 2005. The RHS data gives information on the households in the district based on the

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following parameters: (a) landholding, (b) housing condition, (c) clothing, (d) food security, (e) educational status, (f) consumer durables, (g) earning capability, (h) livelihood, (i) child education, (j) indebtedness, (k) migration, and (l) special types of vulnerability. Each of the above parameters is further sub-divided into five levels of achievement from worst to best. The households are ranked with a minimum score of 1 to a maximum score of 5 according to their achievement level on each of the above-mentioned parameters. So each of these parameters has five levels representing scores 1 to 5. Thus, every household can score a maximum of 5 in the achievement scale for each of the 12 parameters. So the maximum score in the achievement scale of a household can be 60. On the other hand, a household with the worst condition in a particular parameter has a score of 1. So a household being deprived in all 12 parameters has a minimum score of 12 on the achievement scale.

For the construction of the standard of living index, we have considered achievement of each household in five dimensions - (a) food security, (b) housing (c) clothing (d) livelihood and (e) ownership of consumer durables. Food, housing and clothing are the basic needs of life in which achieving higher score implies better standard of living. Use of consumer durables over and above the basic needs can indicate higher purchasing power and better standard of living for the household. Together with this, the main source of income for the household is likely to give an indication to the living condition of the household.

In the Rural Household Survey, each household is assigned a score between 1 and 5 in each of these dimensions. For any arbitrarily chosen block, the number and percentage of households at each score are used to generate a score for the block in a particular dimension. This block level score indicates the score a randomly chosen household in the block is likely to achieve in the said dimension. Then the block level achievement index for that dimension is computed using the general formula for calculating the dimension index with the maximum and minimum values being taken to be 5 and 1 respectively. Finally, standard of living index for a block is a simple average of the achievement indices across five dimensions of food security, housing, clothing, livelihood and ownership of consumer durables.

The education index consists of a weighted average of the projected Census literacy rate (two-thirds weight) and the school enrolment rate for the 5-8 age groups (one-third weight). The maximum and minimum values for both these dimensions are taken to be 1 and 0 respectively. This

is in accordance with the UNDP methodology.

In absence of any block level data on life expectancy at birth, the health index takes into account the following aspects:

- Health Infrastructure,
- Safe Delivery,
- Immunization of children,
- Safe Drinking Water, and
- Sanitation facilities.

The sub-indices have been prepared to reflect the block level situation for each of these aspects. For instance, the infrastructure sub-index is based on the estimates of doctors per lakh persons and beds per 10,000 persons. Indices have been estimated for these two parameters, and then combined using equal weights. The safe delivery sub-index is based on estimates for percentage of safe deliveries – when safe delivery is defined as deliveries occurring in a medical institution or at home attended by a trained medical attendant. Four types of immunization – BCG, Measles, OPV and DPT – have been considered in preparing the immunization sub-index. The immunization sub-index is based on a simple average of percentage of children given their full dose of each of these four vaccines. Safe drinking water sub-index is based on the percentage of households with access to either tap, hand pumps and tube-wells either within their home or nearby (within radius of 200 meters of their residences). Finally, the sanitation sub-index is constructed using estimates of the proportion of households with latrine facilities within their residences out of total households. The sub-indices are then combined using equal weights to calculate health index for the block.

The data on the first three sub-indices was provided by CMOH, South 24 Parganas, while the estimates for safe drinking water and sanitation are based on projections of figures available in Census, 2001.

2.4 The Indices

The analysis of block level human development indicators brings about many interesting observations. There exists very high degree of variations across blocks in terms of achievement in the standard of living and health dimensions. The achievement in education dimension is more uniform across the blocks highlighting the success of the Government programmes for achieving universal literacy and primary school enrolment. While the Standard of Living and the Health Indices have coefficients of variation of 17 and 16 per cent respectively, the coefficient of variation for the Education Index is only 4 per cent.

Table 2.2: Human Development Indices for South 24 Parganas

Block	Standard of Living		Education		Health		Human Development	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank
Thakurpukur-Maheshtala	0.60	1	0.89	5	0.66	2	0.72	1
Budge Budge-I	0.57	2	0.89	4	0.56	8	0.67	2
Budge Budge-II	0.45	11	0.87	10	0.48	20	0.60	16
Bishnupur-I	0.50	4	0.89	8	0.56	9	0.65	6
Bishnupur-II	0.56	3	0.89	7	0.54	12	0.66	3
Sonarpur	0.50	5	0.84	20	0.59	5	0.64	7
Baruipur	0.48	6	0.85	15	0.52	14	0.62	10
Bhangar-I	0.45	12	0.81	25	0.39	28	0.55	26
Bhangar-II	0.47	8	0.85	17	0.52	15	0.61	11
Falta	0.47	7	0.87	11	0.49	18	0.61	12
Diamond Harbour-I	0.44	14	0.82	23	0.55	11	0.61	14
Diamond Harbour-II	0.47	9	0.85	13	0.64	4	0.65	4
Magrahat-I	0.45	10	0.85	19	0.51	16	0.60	15
Magrahat-II	0.45	13	0.85	18	0.57	7	0.62	9
Kulpi	0.36	23	0.85	16	0.51	17	0.57	20
Mandirbazar	0.44	15	0.83	21	0.41	26	0.56	22
Canning-I	0.41	16	0.80	27	0.70	1	0.64	8
Canning-II	0.32	28	0.76	29	0.44	23	0.51	28
Basanti	0.30	29	0.78	28	0.43	24	0.50	29
Gosaba	0.38	21	0.86	12	0.39	29	0.54	27
Joynagar-I	0.41	17	0.83	22	0.59	6	0.61	13
Joynagar-II	0.39	20	0.80	26	0.46	21	0.55	25
Mathurapur-I	0.40	19	0.81	24	0.49	19	0.57	21
Mathurapur-II	0.37	22	0.85	14	0.56	10	0.59	17
Kultali	0.35	25	0.89	6	0.53	13	0.59	18
Patharpratima	0.35	24	0.90	3	0.43	25	0.56	23
Kakdwip	0.41	18	0.88	9	0.66	3	0.65	5
Namkhana	0.34	26	0.93	1	0.46	22	0.58	19
Sagar	0.34	27	0.91	2	0.41	27	0.55	24

Source: Own calculation based on Rural Household Survey, GoWB for the standard of living index, data provided by the Office of the CMOH, South 24 Parganas the Office of the District Project Officer, Sarva Sikksha Avijan, South 24 Parganas and Census of India, 2001 for health and education indices.

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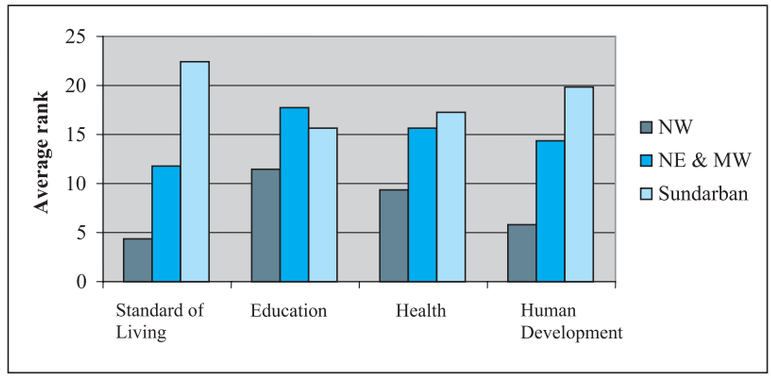
As one may expect, the Sundarban region is worst performing among the three regions. Four among the five worst performing blocks in terms of overall

Figure 2.1: Average Rank of a Block: Region-wise



human development index are located in the Sundarbans. On the other hand, three among the top five performers are from the North West (NW) region. Eleven out of thirteen Sundarban blocks have HDI values below 0.60, while all six blocks of the North West region have HDI values above 0.60 with four of them having HDI values exceeding 0.65. In comparison, in North East and Mid West (NE & MW)Region, seven out of ten blocks have HDI values above 0.60. This indicates the high degree of regional disparity in human development.

A component wise analysis helps us understand the problem better. In terms of standard of living, the top five blocks are all from the North West region. While the average rank of a block in terms of standard of living is below 5 in the North West region, the same is above 22 for the Sundarban region. This clearly indicates the large disparity in the standard of living between the regions. In terms of education and health index, the inter regional variation is more moderate. While the average block ranks for elementary education are 9, 17.8 and 15.6 in North West, North East and Mid West regions respectively, the same for healthcare facilities are 9.3, 15.6 and 17.2. It is indeed heartening to see that Sundarban outperforms the North East and Mid West region in educational achievement. In fact the top three performers in education in the district are all Sundarban blocks. Even in terms of healthcare achievement, two among the top five blocks in the district are from the Sundarban region.

Apart from the high degree of inter-regional variation, wide disparity in performance among the blocks within the Sundarban region is also very prominent in the district. This is not so much for the standard of living, but typical for performance in education and health. The standard of living which is largely dependent on remunerative livelihood opportunities is more homogeneous within a region. But performances in education and healthcare to a large extent depend on people's consciousness, administrative expediency and political will which are again highly correlated. Hence, one observes significant variations in terms of these indicators among blocks.

In the district of South 24 Parganas, the top three performers in education are Namkhana, Sagar and Pathar Pratima in

that order, while the worst performers are Canning-II, Basanti and Canning-I. All six are Sundarban blocks. Similarly, Canning-I is the top performer in the district in terms of provision of healthcare, but Gosaba remains at the bottom rung of the ladder. The intra-regional variation is relatively muted for all three indicators in case of the other two regions. Overall, it seems that, except Canning-I, the blocks in Canning sub-division in the Sundarban region are most underdeveloped in every aspect of human development.

It is evident that in South 24 Parganas, the variation in the level of human development is explained to a large extent by variations among the blocks in terms of standard of living. This becomes clear once one looks at the range of index values for different components as well as the overall human development. The worst performing block in terms of overall human development, Basanti, has an index value of 0.50, while the same for the best performer Thakurpukur- Maheshtala is 0.72. Thus, the attainment of Basanti in terms of human development stands at 69 per cent of that of Thakurpukur-Maheshtala. In case of the three components of human development, the achievement of the least developed block stands at 50 per cent, 82 per cent and 56 per cent of the achievement of the best performer for standard of living, education and provision of healthcare respectively.

Before we end this discussion, one note of caution needs to be added. The numbers representing the index values – particularly for education and health – are of suggestive nature. For example, to calculate the education index we used enrolment data for state-run educational institutions only. Sonarpur – a block located very close to Kolkata and of primarily urban nature – has obtained a rank equal to 20 in our calculation. This has happened because of low primary school enrolment rate in Sonarpur. We suspect that one factor that may be responsible for this phenomenon is the substantial enrolment in private primary schools in urban blocks like Sonarpur. The education index values for such blocks may improve to a significant extent if the children going to private schools can be accounted for in calculation of enrolment rates. Unfortunately, we do not have access to that information. A similar story is true for healthcare provision as well. With present proliferation of private nursing homes and healthcare infrastructure in areas close to urban centres, the pressure on state run health care system is much lower. This may have affected our calculation of the healthcare indices in these areas.

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